

REMARKS ON THE SNAKE COLLECTION IN THE QUETTA MUSEUM.

BY

MAJOR F. WALL, I.M.S., C.M.Z.S.

At the request of Sir Henry McMahon the collection of snakes in the Quetta Museum has been recently submitted to me for identification.

120 specimens were forwarded which include 23 species. One species, I think there can be no doubt, is new to science. This belongs to the genus *Contia*, and I propose to call it *mcmahoni* after the President of the Quetta Natural History Society. In a few other instances the previously known habitat appears to have been extended, viz., *Eryx johni*, *Zamenis ravergeri*, *Contia walteri*, *Bungarus caeruleus*, and *Bungarus sindanus*.

All the snakes have been collected in Baluchistan.

Family.—GLAUCONIIDÆ.

Glauconia blanfordi (Boulenger).

A single typical specimen of this little snake is from Sibi.

Family.—BOIDÆ.

Eryx johni (Russell).

Three specimens, all about two-thirds grown, are from Duki, and Hanna. I can find no previous records of this snake from Baluchistan. The Hanna specimen is the darkest I ever saw. It is brown dorsally, and there are very distinct black bars on the body and tail. The belly is heavily mottled with black. The two Duki specimens are similar, but the black bars are not so distinct. The details of scales and shields are as follows:—

COSTALS.			Ventrals.	Sub-caudals.	Locality.
Two heads-lengths behind head.	Mid-body.	Two heads-lengths before vent.			
47	53	41	190	33	Hanna.
42	47	34	199	33	Duki.
44	51	38	200	29	Duki.

Family.—COLUBRIDÆ.

Tropidonotus piscator (Schneider).

Four specimens from Harnai, Sibi, Kirta and Sharigh. All are olive-greenish with moderately large black chequers anteriorly, and quite typical in lepidosis.

Lycodon striatus (Shaw).

Three specimens from Quetta. One in particular shows a bright yellow adornment similar in pattern to the white observed in the usual Indian specimens. Probably the others were similar, but the bright yellow is sure to fade in spirit as it does in other *Lycodons* (*jara*, *flavomaculatus*, and *fasciatus*). The ventrals and subcaudals are $179\frac{1}{2} + 60$, $180 + 63$, and $176\frac{1}{2} + 63$. There are 9 supralabials in one specimen on the left side, and the 3rd, 4th, 5th and 6th touch the eye on that side.

Zamenis mucosus (Linné).

Six specimens from Quetta and Hanna. One large adult is unusually dark being a uniform blackish dorsally. In two specimens the loreals are two (1 + 1).

Zamenis rhodorhachis (Jan.).

Several specimens, all of variety *ladacensis* (Anderson) from Quetta, Fort Sandeman, Hanna, Duki, Mach, Takatu, Spinkarez (Hanna), and Sibi. The supralabials are 9, the 4th is invariably divided and its upper part touches the eye. I think there can be no doubt that this is the correct interpretation of the condition, and that the upper part of this shield should not be designated a subocular (*vide* Boulenger's Catalogue, Vol. 1, p. 398). On one side in one specimen the 3rd supralabial is also divided as it normally is in the species *ravergieri*. The ventrals vary from 218 to 230, and the subcaudals are 131 in the only specimen where the tail is complete, and these shields can be counted. The costals in all are 19 two heads-lengths behind the head, 19 in mid-body, and 13 usually (11 once) two heads-lengths before the anus. The two first steps occur very close together, and are often intermixed but from 19 to 17 the row next to the vertebral usually blends with the one below, and from 17 to 15 above the ventrals blends with the 4th (rarely the 2nd). From 15 to 13 the row next to the vertebral again blends with the one below.

In all a regular series of spots of a darker brown than the ground colour pass down the dorsum. These spots are usually rather large, and roundish or oval, but in some specimens these are replaced by narrow bars.

The teeth in this species are quite different from those of *ventrimaculatus*, the species to which it shows such a very close external resemblance. There is a gap at the back of the maxillary array followed by two enlarged teeth in *ladacensis*.

Zamenis karelini (Brandt).

Several specimens from Quetta, Pishin, Mastung, Walikhan, Gulistan,

and Bostan. The ventrals range between 192 and 206, and the subcaudals from 92 to 99. The costals number 19 two heads-lengths behind the head, 19 in mid-body, and 13 two heads-lengths before the anus. The absorption of rows from 19 to 17, and from 17 to 15 occurs very close together and the steps may be intermixed. Usually the row next to the vertebral first blends with the one below (or rarely with the vertebral), and then the 3rd blends with the 4th (rarely the 2nd). From 15 to 13 the reduction is similar to that in the first step, the row next to the vertebral disappearing.

The supralabials are usually 9, the 3rd, 4th and 6th being divided, and the 4th, 5th and 6th touch the eye. This seems to me the true interpretation of the condition, and I do not agree with Mr. Boulenger in considering the upper parts of the 4th and 6th shields suboculars. None of these specimens were adorned with any suspicion of an orange vertebral stripe. The dentition is as follows in one:—maxillary 12 left, 11 right, followed by a gap, and then two enlarged teeth. Palatine 8. Pterygoid 15 left, 16 right. Mandibular 16 left, 15 ? right.

Zamenis ravergeri (Ménétr).

Several specimens from Hanna, Quetta, Kalat, Ziarat, and Harboi. This species does not appear to have been recorded from Baluchistan before, and is evidently common there. The supralabials are 9, the 3rd and 4th divided (the 3rd entire in two specimens) and the 4th, 5th and 6th touch the eye. The ventrals range between 195 and 220, and the subcaudals between 87 and 93. In one example the 4th to the 8th are entire and in another the 4th to the 6th. The costals are in 21 rows, two heads-lengths behind the head, 21 in mid-body, and 15 two heads-lengths before the anus. The first two steps from 21 to 19, and 19 to 17 occur close together, and are sometimes intermixed. Usually the row next to the vertebral is absorbed first into the row below, or into the vertebral, then the 3rd row above the ventrals is absorbed into the 4th and finally the rows reduce from 17 to 15 by the row next to the vertebral being absorbed into the one below. In adults the spots are usually rather a darker brown than the ground colour, but in one adult from Ziarat the dorsal spots are unusually black, and well defined. The maxillary teeth agree with those of *rhodorhachis* and *karelini* in having a gap posteriorly succeeded by two enlarged teeth.

Zamenis diadema (Schlegel).

Specimens of this snake are very numerous, there being no less than 30 examples, from Dhadur Bolan, Hirok, Ziarat, Mushkaf, Khushdilkhan, Harboi Hills (Kalat), Fort Sandeman, Kalat, Hudda, Hanna, Quetta, Urak, Kach, Sibi, Mach, Loralai, Sheikh Wasil, Shaltanzai, Pishin and Hazara Road. There are three distinct colour varieties. A—Dorsally buff or pale brownish with a few or many scales deep claret coloured.

There is no arrangement in the disposition of these dark scales, except in one or two specimens where a congeries of such spots roughly suggests the pattern seen in variety *B*. The head is sometimes completely dark claret coloured, or there may be blotches of this hue irregularly disposed above. On the occiput and neck the claret hue merges into a brilliant crimson.

B.—In this the ground colour is light brown. A dorsal series of large spots of a darker brown pass regularly down the middle of the back, and these spots alternate with those of a lateral series of similar but smaller spots. The head is light brown, with a somewhat irregular disposition of darker spots or mottlings, which often form a complete circle on the crown hence the name *diadema*. There is no crimson cephalic or nuchal adornment.

C. This variety may be considered a melanoistic form of the last. The specimens are blackish, with the same arrangement of regular spots as the last variety, the spots being of a still blacker hue. In one specimen no such spots could be distinguished, the colour being uniformly black.

There were many quite juvenile specimens, but it is remarkable that all of these conformed to the type of adults of variety *B*. I have noted this before in the Punjab where adults of variety *A* are very common, and it would appear that the colouration and markings may become very markedly modified with age.

Unlike the preceding three species of this genus the maxillary array of teeth is not interrupted posteriorly, and there are no enlarged posterior teeth, a fact which leads me to think that the genus *Zamenis* as constituted by Mr. Boulenger needs revision and further subdivision.

Lytorhynchus ridgewayi (Boulenger).

Four specimens from Quetta and Bostan. The ventrals are 182, 170, 171 and 172, the anal entire in 3, and dubiously divided in the 4th. The subcaudals are 41, 45, 50 and 51. The costals are normally 19 two heads-lengths behind the head, 19 in mid-body, and 15 two heads-lengths before the anus. In one the 8th and 9th rows above the ventrals repeatedly fused and divided anteriorly so that the rows were 17 in some places. In another the vertebral, and next scale on the left side blended, and divided repeatedly posteriorly so that the rows were 16 in places. The absorption of rows from 19 to 17, and from 17 to 15 occurs close together and the steps may be intermixed, but usually the vertebral row blends with the next first, and then the 3rd and 4th rows above the ventrals coalesce. The supralabials are 7 or 8, and usually the 3rd and 4th are divided, and touch the eye. On one side in one specimen the 4th and 5th are divided and these only touch the eye. In another the 4th only is divided on one side, and the 4th and 5th touch the eye. In all the specimens there was but one loreal not two as mentioned by Mr. Boulenger (Catalogue Vol.

1, p. 416). The anchor-shaped mark on the head mentioned by Mr. Boulenger was rather disconnected in one specimen.

The dentition is peculiar. There are 8 subequal teeth in the maxillæ, then a gap followed by two ungrooved enlarged teeth. The palatine teeth are 5 in number. There are no pterygoid teeth. The mandible supports 12 on one side, and 11 on the other.

Contia walteri (Boettger).

Two specimens from Quetta and Sharigh are without doubt this species. In both the heads are quite black above, and the body has zebra-like black stripes anteriorly which soon break up into spots, and then disappear posteriorly. The ventrals are 214, and the subcaudals 79 in one example. In the other damage made counting impossible. The anal is divided in both. The scales are 15 two heads-lengths behind the head, 15 in mid-body, and 15 or 13 two heads-lengths before the anus. In the specimen where the rows reduced to 13 the numbers fell owing to a fusion of the 3rd and 4th rows above the ventrals. This was a ♂ example. The loreal was absent in both. The suture between the internasals was subequal to that between the præfrontals in one example, greater in the other. The breadth of the frontal was twice that of the supraocular in one example, and about two-fifths greater in the other. In other respects the specimens agree well with Mr. Boulenger's description (Catalogue Vol. II, p. 264).

Contia memahoni. spec. ? nov.

There are four specimens of a little snake of the above genus which I cannot doubt is entitled to rank as a species distinct from any described in Mr. Boulenger's Catalogue, and which I cannot find described elsewhere. These are from Quetta, Loralai, Mach and Spintangi. Three of these are, I presume, adults, and are nearly a foot long, the fourth is a young specimen 6 or 7 inches in length.

Description. *Rostral*.—touches 6 shields. *Internasals*.—Two, the suture between them equal to or greater than that between the præfrontals. *Præfrontals*.—Two, in contact with internasal, nasal, 2nd supralabial, præocular, supraocular, and frontal. *Frontal*.—Touches 6 shields, the supraocular sutures rather the longest, the breadth fully twice that of the supraoculars. *Nasal*.—Entire. *Loreal*.—Absent. *Præocular*.—One. *Postocular*.—One. *Temporals*.—1 + 1. *Supralabials*.—7, the 3rd and 4th touching the eye. *Infralabials*.—5, the 5th largest, and in contact with 2 scales behind, the 5th only touching the posterior sublinguals. *Costals*.—13 two heads-lengths behind the head, 15 in mid-body, and 13 two heads-lengths before the anus. In all the specimens these scales are 15 in the neck, but soon become 13 by the absorption of the 4th row above the ventrals. After one or two heads-lengths the rows become 15 again by the 3rd row dividing, and remain 15 till the hinder part of the body, where

they again reduce to 13, the 4th row again blending with the 5th (more rarely the 3rd). The ventrals are 204, 206, 209 and 212, the anal divided and the subcaudals 96, 91, 94, and 96. The body dorsally is nearly uniform light brownish, the scales basally rather darker and the head is of a duskier shade in the adult. In the young the head is black, but not quite so black as in typical *persica* and *walteri*. Under-parts uniform whitish. It seems to be most close to *persica* but differs in the greater number of subcaudals, in having 13 scale rows anteriorly, and in the colour of the adult.

Dipsadomorphus trigonotus (Schneider).

Three specimens from Kirani, Sharigh, and Jhalawan. None of these conform to the variety *melanocephalus* (Annandale, Jour. Asiatic. Soc., Bengal, 1904, p. 209) first mentioned by Dr. Annandale and which appears peculiar to the Perso-Baluchistan area. The ventrals and subcaudals of two are $236 + 80$ and $232 + 84$.

Psammophis leithi (Günther).

A single specimen from Duki. The scales are 17 two heads-lengths behind the head, 17 in mid-body, and 11 two heads-lengths before the anus. In the step from 17 to 15 the 4th row above the ventrals disappears being absorbed into 3rd on one side, and into the 5th on the other. In the step from 15 to 13 the row next to the vertebral is absorbed, and from 13 to 11 the 3rd row above the ventrals disappears. The ventrals are 172, anal entire, and subcaudals 98. There is a single temporal, and 8 supralabials, the 4th and 5th touching the eye. The belly is uniform saffron-yellow.

Psammophis schokari. (Forskal).

Several specimens from Quetta, Toba, Marachak, Jhalawan, Kishingi, Chaman and Khost.

The specimen from Khost is exactly like specimens of *condanarus* in colouration, there being a median and two lateral narrow stripes of buff, the median involving the vertebral row only, and the lateral the contiguous halves of the 3rd and 4th rows above the ventrals. The specimen from Marachak is very similar, but the buff stripes are broader, the median involving the vertebral, and half the adjacent rows, and the lateral involves the 4th and half the 3rd and 5th rows. The striping is not so well defined and conspicuous as in the previous specimen. The rest have a dark vertebral stripe involving the vertebral, and the adjacent half rows, and there is a series of blackish narrow apical stripes on the scales of the 6th row. There are no light stripes at all anteriorly, but the buff stripes typical of *condanarus* are obscurely indicated posteriorly.

It seems to me very dubious whether all these specimens should be considered *schokari*, I incline to the opinion that there may be two species judging from the peculiarities of the subcaudals, the supralabials, and

the number of scales in the posterior part of the body as will be seen from the annexed tabulated details.*

Costals.			Ventrals.	Subcaudals.	Labials touching eye.	Habitat.
2 heads-lengths behind head.	Mid-body.	2 heads-lengths before anus.				
17	17	11	181	121	5th & 6th	Khost.
17	17	11	178	117	5th & 6th	Jhalawan.
17	17	11	179	115	5th & 6th	Toba.
17	17	13	177	88	?	Chaman.
17	17	13	182	84	3rd, 4th & 5th	Quetta.
17	17	13	177	84	4th, 5th & 6th	Quetta.
17	17	13	186	75	4th, 5th & 6th	Marachak.

Baluchistan.

* I append details of other specimens I have examined from other localities for comparison :—

Costals.			Ventrals.	Subcaudals.	Labials touching eye.	Habitat.
2 heads-lengths behind head.	Mid-body.	2 heads-lengths before anus.				
17	15	11	180	119	5th & 6th	Muhammerah (Persia).
17	17	11	175	119	5th & 6th	Do.
17	17	11	?	?	4th & 5th	Persian Gulf.
17	17	11	181	149?	5th & 6th	Dthali (Aden Hinter land).
17	17	11	175	124	5th & 6th	Do.
17	17	13?	175	143	?	Do.
17	17	13	172	?	?	Do.

Distira cyanocincta (Daudin).

Six specimens from Soumiani (Las Bela) and Manora. The ventrals of the four critically examined are 348, 363, 366 and 375. The costals are 29, 30, 31 and 32 anteriorly (two headslengths behind the head) 37, 39, 39, and 40 in mid-body, and 37, 38, 39 and 41 posteriorly (two headslengths

before the anus). There is one postocular on both sides in one example, one on one side in another. The temporal is single on both sides in one specimen, and on one side in two specimens. The body has complete black bands expanding into rhombs dorsally, and not connected ventrally.

Enhydrina valakadyn (Boie).

Two specimens from Soumiana (Las Bela) are quite typical.

Bungarus caeruleus (Schneider).

One typical example from Sharigh, which, as far as I am aware, extends the habitat of this species. The ventrals are 212 but the tail being imperfect the subcaudals cannot be counted.

Bungarus sindanus (Boulenger).

Two specimens from Fort Sandeman. The ventrals are 201 and 214, and the subcaudals 48 in both. I can find no previous mention of this species outside Sind.

The ventrals in these Baluchistan specimens are much lower than the range previously noted by me in my "Poisonous terrestrial snakes of our British Indian Dominions." Within the same week that I examined those specimens I received another from Fort Sandeman through the Secretary of the Bombay Natural History Society, and also details of four others killed this year in the same locality by Major C. H. Ward, of the 4th Rajputs. On revising my previous notes with these additional specimens I find the details noted by me in the above work require some modification. I find for instance that in all the specimens in which I have measured the relative breadth and length of the vertebrals they are as broad or broader than long, not longer than broad, as shown in the plate that accompanies Boulenger's description of one of the type specimens (Bombay Natural History Jour., Vol. XI, p. 73). Again I have stated that some of the terminal subcaudals are divided, and I find that this is very unusual; in fact, is only the case in one of the many specimens I have now seen.

The examination of these recently acquired specimens has broken down many of the distinguishing characters, which at first appeared to differentiate *walli* from *sindanus*, but in spite of this I still think that the two species are distinct. In *walli* the body is very distinctly compressed, but I have never seen any tendency towards compression in *sindanus*. Further the markings in *walli* are distinct, and it appears to be a larger snake than *sindanus*. The record of 14 specimens of *walli* I have examined is 5 feet $4\frac{1}{2}$ inches, whilst that for the 17 specimens of *sindanus* referred to below is 4 feet 3 inches. Mr. Boulenger's quotation from Mr. Mountford that *sindanus* commonly reaches 6 feet is not borne out by these specimens, the details of which I append. The specimens recorded by Mr. Cholmondeley in this Journal (Vol. XVIII, p. 921), and which I considered *walli* (*vide* Vol. XIX, p. 268) must in the light of our increased knowledge I think be acknowledged to be *sindanus*. I await specimens of

both forms to convert into skull preparations which may throw further light on the subject.

COSTALS.			Breadth of vertebrals compared with length.	Ventrals.	Subcaudals.	Subcaudals divided.	2nd supralabial narrower than 3rd.	Body compressed.	Habitat.	Remarks.
2 heads-lengths behind head.	Mid-body.	2 heads-lengths before anus.								
17	17	17	*	237	49	None.	*	*	Umarkot (Sind)	} Types in the British Museum. Bombay Natural History Society Collection.
*	17	17	*	234	52	45th to 49th	*	*	Sukkur (Sind)	
17	17	17	*	220	49	None.	*	*	do.	
17	17	17	=	218	48	do.	*	*	Jaisulmere (Sind).	
17	17	17	$\frac{2}{3}$ $\frac{1}{4}$ $\frac{1}{2}$	201	48	do.	No.	No.	Fort Sandeman	} Quetta Museum Collection. Bombay Natural History Society's Collection.
17	17	17	\sim	214	48	do.	Slightly.	do.	do.	
17	17	17	\sim	209	43	do.	No.	do.	do.	
19	17	17	=	206	48	do.	do.	*	do.	
17	17	17	=	211	47	do.	Slightly.	*	do.	} Details supplied by Major C. H. Ward.
17	17	17	Rather >	216	47	do.	Yes.	*	do.	
17	17	17	Do.	207	48	do.	do.	*	do.	
17	17	17	Much >	191	45	do.	do.	No.	Indore	
*	17	*	\sim	198	44	do. ?	do.	*	do.	} Specimen sent me by Mr. Cholmondeley. Specimen referred to by Mr. Cholmondeley in this Journal (Vol. XVIII p. 921.)
*	17	*	\sim	189	50	do. ?	do.	*	do.	
*	17	*	\sim	198	48	do. ?	Slightly. ?	*	do.	
19	17	17	\sim	218	?	do. ?	Yes.	*	Jodhpur	
19	17	17	\sim	*	*	*	*	*	Marwar	} Details sent me by Major Colan.

* Implies not noted.

Naia tripudians (Merrem).

A single juvenile specimen from Duki. It is pale olive-brown with no suspicion of hood marks, and does not conform to the type of variety *oxiana* (Eichwald). The costals are in 19 rows anteriorly, 21 in midbody, and 13 posteriorly. The ventrals are 189, and the subcaudals 64.

Family.—VIPERIDÆ.

Vipera lebetina (Linné).

Two specimens from Ziarat and Kalat. The ventrals are 170 and 171 and the subcaudals 42 and 46. The costals two heads-lengths behind the head are respectively 22 and 23, in mid-body 23 and 25, and two heads-lengths before the anus 19 in both. They are quite typical.

Echis carinata (Schneider).

Several specimens from Sharigh, Duki, Robat, Hanna, and Quetta. They are all quite typical.

Eristocophis memahoni (Alcock and Finn).

One specimen from Kharan lands is quite typical. The costals two heads-lengths behind the head are 23, in mid-body 24, and two heads-lengths before the anus 17. The ventrals are 132, and the subcaudals 32, of which the 2nd to the 6th are entire.